Heat Surveillance Summary - 1998

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Summer 1998 was hot in Missouri as it was across the nation. The life-threatening heat wave that traveled through many states across the nation prompted the Centers for Disease Control and Prevention to issue a media advisory containing tips for managing heat on July 22, 1998. The Department of Health issued one statewide Hot Weather Health Advisory and one statewide Hot Weather Health Warning in 1998. See the sidebar on page 22 for the criteria used when issuing a Hot Weather Health Advisory or Warning.

The statewide Hot Weather Health Advisory was issued on June 25, 1998 when heat indexes reached 106º in St. Louis, Kansas City and Cape Girardeau, 104º in Columbia and 102º in Springfield. The peak of high heat indexes from June 23 through June 29 accounted for 35 percent (163) of the heat-related illnesses reported in 1998. No heat-related deaths occurred during this time period. However, four heat-related deaths occurred in the St. Louis metropolitan area between June 30 and July 2. See Figure 1.

The statewide Hot Weather Health Warning was issued on July 20, 1998 after heat indexes reached 112º in St. Louis, 110º in Kansas City, 108º in Cape Girardeau, 106º in Columbia and 101º in Springfield on July 19. The peak of high heat indexes from July 18 through July 22 accounted for 30 percent (142) of the heat-related illnesses reported in 1998. Four heat-related deaths occurred during this time period. See Figure 1.

In 1997, one statewide Hot Weather Health Advisory was issued on July 25. A peak of high heat indexes from July 12 through July 28 accounted for 76% (176) of the 232 heat-related illnesses reported in 1997.

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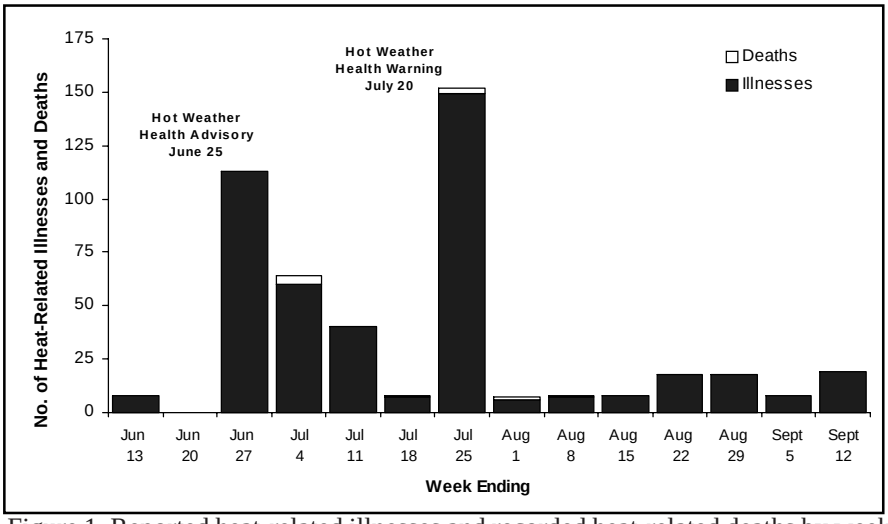

Figure 1. Reported heat-related illnesses and recorded heat-related deaths by week of occurrence, Missouri, Summer 1998.

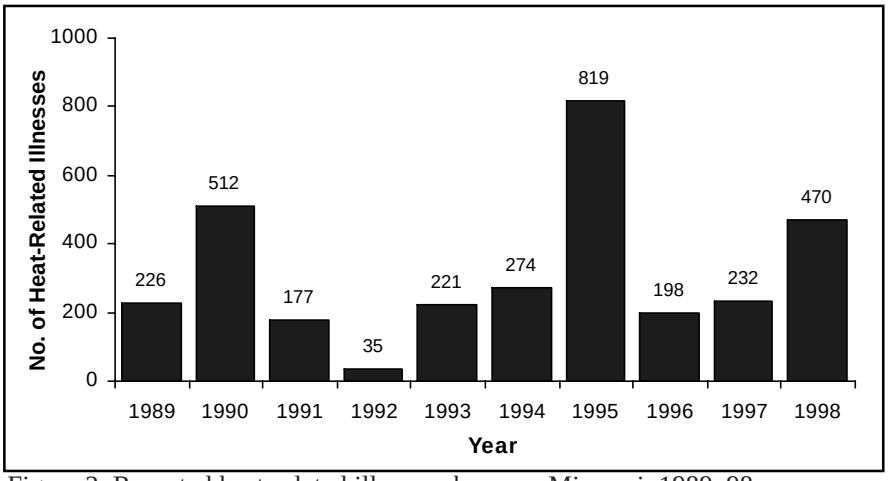

Figure 2. Reported heat-related illnesses by year, Missouri, 1989–98.

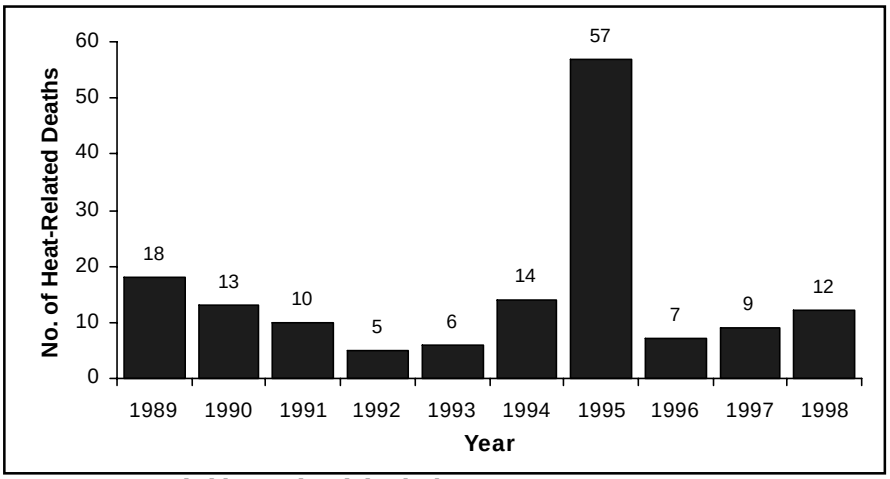

Figure 3. Recorded heat-related deaths by year, Missouri, 1989–98.

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In 1998, 470 heat-related illnesses were reported. This is twice the number of heat-related illnesses reported in 1996 or 1997, but still much lower than the 819 heat-related illnesses reported in 1995. See Figure 2.

In 1998, 12 heat-related deaths were recorded. This is three more deaths than recorded in 1997, but considerably lower than the 57 heat-related deaths recorded in 1995. See Figure 3. Considering the high number of heat-related illnesses reported in 1998, one would expect to have seen more heat-related deaths. This lower number of deaths may reflect the effectiveness of public health efforts to educate the public to recognize heat-related illness and seek medical treatment promptly.

Eight (67%) of the heat-related deaths in Missouri in 1998 were in individuals aged 60 or older. The elderly and chronically ill are more vulnerable to heat because they may perspire less and are more likely to have health problems requiring medications that impair the body's natural defenses to adjust to heat.

In 1998, one death in Missouri was a 4-year-old girl who disappeared from a Bible school/day care center. The child was later discovered locked in a car where she may have been for as long as six hours. Infants and children up to 4 years of age are sensitive to the effects of high temperatures and rely on others to regulate their environment and provide adequate liquids. Infants and children should never be left unattended in a parked car or other hot environment.

Department of Health
Stages of Hot Weather Health Advisories

A statewide **Hot Weather Health Advisory** will be issued when heat indexes of 105° in a large proportion of the state are first reached (or predicted). The Department of Health will inform the public about the risks of heat-related illness and urge concern for those at high risk. Monitoring of temperatures and heat indexes will be intensified. An **Advisory** will not be canceled.

A statewide **Hot Weather Health Warning** will be issued when:

1. Heat indexes, measured at peak afternoon temperatures, have remained at 105° or more for two days in a large proportion of the state **and**
2. When weather predictions are for continued high-stress conditions for at least 48 hours in a large proportion of the state.

During a **Warning**, the Department of Health will encourage local health departments to assure that cooling shelters are available and also encourage other community agencies to provide relief from the heat stress. A **Warning** will be downgraded or canceled when heat indexes in a large proportion of the state fall below 105° for 48 hours and the forecast is for 48–72 hours of continued relief from heat stress.

The Department of Health will recommend to the Governor that a statewide **Hot Weather Health Emergency** be declared when:

1. Extensive areas of the state are experiencing high and sustained levels of heat stress (determined when the heat index reaches 105° for three days); **and**
2. Surveillance data demonstrate increased levels of heat-related illness and death statewide; **and**
3. The National Weather Service predicts that hot and humid conditions are likely to continue for several days in a large proportion of the state.

An **Emergency** will be canceled when the heat indexes in a large proportion of the state fall below 105° for 48 hours and the National Weather Service predictions indicate a low probability for the return of severe conditions for the following 48 to 72 hours.

The St. Louis metropolitan area accounted for a large proportion of the heat-related illnesses and deaths in 1998; 291 (62%) of the heat-related illnesses and five (42%) of the heat-related deaths. Although the number of heat-related illnesses reported from St. Louis in 1998 was more than twice the number reported in 1997, the number of heat-related deaths increased by only one. We attribute this to the diligent efforts of St. Louis Operation Weather Survival. This coordinated effort between public health agencies, voluntary organizations, the media and others has been very effective in reducing excess mortality due to stressful weather conditions in the St. Louis area. In 1998, St. Louis Operation Weather Survival issued three Hot Weather Health Advisories and two Hot Weather Health Warnings.

Recognizing the importance of preventing heat-related illnesses, the American Medical Association adopted the following policies[1] at their 1997 annual meeting:

- Physicians should identify patients at risk for extreme heat-related illness such as the elderly, children, individuals with physical or mental disabilities, alcoholics, the chronically ill, and the socially isolated.

Patients, family members, friends, and caretakers should be counseled about prevention strategies to avoid such illness. Physicians should provide patients at risk with information about cooling centers and encourage their use during heat emergencies.

- The American Medical Association encourages patients at risk for heat-related illness to consider wearing appropriate medical identification.
- The American Medical Association supports efforts to develop and disseminate educational materials on the prevention and treatment of heat-related illnesses and encourages state, county and speciality medical societies to work with public and mental health agencies and others in developing and implementing community emergency plans for prevention of heat-related morbidity and mortality.

The Department of Health supports these policies of the American Medical Association. We have printed tips for preventing heat-related illness on pages 19–20 of this issue. We would encourage you to duplicate this information and use it to educate your patients about heat-related illness.

Prompt notification of heat-related illnesses and deaths is essential for an effective heat surveillance system. If you are aware of heat-related illnesses or deaths, please report them promptly to your local health department.

Further information on prevention of heat-related illness and past surveillance data for Missouri can be obtained through the Department of Health Home Page at **http://www.health.state.mo.us/ColdAndHeat/CAndH.html** or by calling the Office of Epidemiology at (573) 751-6128.

REFERENCE:

1. Blum LN, Bresolin LB, Williams MA. From the AMA Council on Scientific Affairs. Heat-Related Illness During Extreme Weather Emergencies. JAMA 1998;279(19):1514.

LATE BREAKERS

☞ **Change in Recommendation for Meningococcal Vaccine for Travelers**—The Centers for Disease Control and Prevention (CDC) no longer recommends meningococcal vaccine for travelers to Saudi Arabia, Nepal, India, Mongolia, Kenya, Burundi and Tanzania. The change in this recommendation was prompted by the lack of evidence of ongoing epidemics of invasive meningococcal disease in these countries. This announcement supersedes the most recent edition of the CDC publication "Health Information for International Travel" which recommends meningococcal vaccine for travelers to these countries. Persons who are going to Saudi Arabia should be cautioned that Saudi officials may require persons who are making religious pilgrimages or seeking employment in their country to produce a current certificate of vaccination against meningococcal disease even though it is no longer recommended by CDC. If you have questions, please contact the Section of Vaccine-Preventable and Tuberculosis Disease Elimination at (800) 699-2313.

☞ **Rotavirus Vaccine**—The Advisory Committee on Immunization Practices released its recommendations for the use of rotavirus vaccine in March 1999. Rotavirus affects virtually all children during the first five years of life, and rotavirus infection is the most common cause of severe gastroenteritis in the United States and worldwide. The Food and Drug Administration approved oral, live rotavirus vaccine on August 31, 1998, for use among infants. The full recommendations are on the Internet at **http://www.cdc.gov/epo.mmwr/preview/mmwrhtml/00056669.htm**. If you have questions, please contact the Section of Vaccine-Preventable and Tuberculosis Disease Elimination at (800) 699-2313.

☞ The Missouri Information for Community Assessment (MICA) health data system won first prize in the Partnership Technology Games held at the Prevention 99 Conference in Washington, D.C., March 18–21, 1999. MICA allows users to generate tables and maps by specific condition, year of occurrence, age, race, sex, county and zip code. Presently data is available for the following conditions: births, deaths, emergency visits, hospital discharges, inpatient procedures, injuries, and motor vehicle crash and outcome. Through MICA information on obtaining lists, labels, diskettes or tapes for various health professions can be accessed along with counts and costs for obtaining the information in various formats. MICA is available through the Department of Health Home Page at **http://www.health.state.mo.us/MICA/nojava.html**. Access to additional data sets is being planned.